

CLAIM SET AS AMENDED

~~{e1}~~ 1. (currently amended) A process for synchronizing an input signal  $[(S)]$  including the following process steps:

demodulating ~~(5a)~~ the input signal  $[(S)]$  according to a first demodulation method  $[(AM)]$  in relation to a first signal parameter for creating a first demodulated input signal ~~(S<sub>AM</sub>)~~;

correlating ~~(6a)~~ the first demodulated input signal ~~(S<sub>AM</sub>)~~ with a first comparison signal ~~(f (AM, Signal))~~ that depends upon the first demodulation method  $[(AM)]$  to determine a time offset  $[(\square)]$  between the first demodulated input signal ~~(S<sub>AM</sub>)~~ and the first comparison signal ~~(f (AM, Signal))~~; and

time-wise shifting the input signal  $[(S)]$  in accordance with the time-wise offset  $[(\square)]$  determined by the correlation.

~~{e2}~~ 2. (currently amended) The process ~~Procedure~~ according to claim 1, wherein is further included:

demodulating ~~(5b)~~ the input signal  $[(S)]$  according to a second demodulation method ~~(FM)~~ in relation to a second signal parameter for creating a second demodulated input signal ~~(S<sub>FM</sub>)~~ and

~~Correlating~~ correlating ~~(6b)~~ the second demodulated input signal ~~(S<sub>FM</sub>)~~ with a second comparison signal ~~(f (FM, Signal))~~ that depends upon the second demodulation method ~~(FM)~~ for determining a time offset between the second demodulated input signal ~~(S<sub>FM</sub>)~~ and

the second comparison signal ~~(f(FM,Signal))~~.

~~{e3}~~ 3. ((currently amended) The process ~~Process~~ according to claim 2, wherein the first demodulation method is amplitude demodulation ~~(AM)~~ and the first signal parameter is the amplitude and the second demodulation method is frequency demodulation ~~(FM)~~ in the second signal parameter is frequency.

~~{e4}~~ 4. (currently amended) The process ~~Process~~ according to claim 1, wherein:

the input signal  $[(S)]$  is demodulated ~~(5a, 5b, 5c)~~ according to n different demodulating methods ~~(f(x))~~ in relation to n different parameters to create n different demodulated input signals ~~(S<sub>f(x)</sub>)~~; and

each demodulated input signal ~~(S<sub>f(x)</sub>)~~ is correlated ~~(6a, 6b, 6c)~~ with an associated comparison signal ~~(f(f(x),Signal))~~ dependent on the associated demodulation method ~~(f(x))~~ to determine a time offset ~~( $\square_1, \square_2, \square_3$ )~~ between each demodulated input signal ~~(S<sub>f(x)</sub>)~~ and the associated comparison signal ~~(f(f(x),Signal))~~.

~~{e5}~~ 5. (currently amended) The process ~~Process~~ according to claim 4, wherein each demodulation method is defined by subjecting the input signal  $[(S)]$  to one of a definite analytical and partially defined function f ~~(x=S)~~ in order to create the associated

demodulated input signal  ~~$S_{f(x)}$~~ .

~~{e6}~~ 6. The process ~~Process as in~~ according to claim 5, wherein at least one of the functions is one of: amplitude demodulation  ~~$(AM)$~~ ; the logarithm of the amplitude demodulation  ~~$(\log_n(AM))$~~ ; frequency demodulation  ~~$(FM)$~~ ; and the time differential of the frequency demodulation  ~~$(d/dt(FM))$~~ .

~~{e7}~~ 7. (currently amended) The process ~~Process~~ according to claim 2, wherein the different results of the correlations  ~~$(6a, 6b, 6c)$~~  of the different demodulation methods are subjected to a weighting  ~~$[[8]]$~~ , with the correlation results of each demodulation method having a predetermined weighting factor  ~~$(g_1, g_2, g_3)$~~  applied thereto, for calculating the offset  ~~$[[\square]]$~~  of the input signal  ~~$[[S]]$~~ .

~~{e8}~~ 8. (currently amended) The process ~~Process~~ according to claim 1, wherein the comparison signal  ~~$(f(AM, Signal), f(FM, Signal), f(f(x), Signal))$~~  is obtained by subjecting a synchronization sequence to the first demodulation method  ~~$(AM, FM, f(x))$~~ .

~~{e9}~~ 9. (currently amended) The process ~~Process~~ according to claim 1, wherein the input signal  ~~$[[S]]$~~  is subjected to an analog/digital conversion  ~~$(2, 2a, 2b, 2c)$~~  at one of before and

after demodulation ~~(5a, 5b, 5c)~~.

~~{e10}~~ 10. (currently amended) The process ~~Process~~ according to claim 9, wherein a filtering ~~(1, 1a, 1b, 1c)~~ takes place at one of before and after the analog/digital conversion ~~(2, 2a, 2b, 2c)~~.

~~{e11}~~ 11. (currently amended) The process ~~Process~~ according to claim 10, wherein the filtering ~~(1a, 1b, 1c)~~ is different for each demodulation method ~~(AM, FM, f(x))~~.

~~{e12}~~ 12. (currently amended) The process ~~Process~~ according to claim 10, wherein the filtering ~~(1a, 1b, 1c)~~ is carried out so that the one demodulation method ~~(AM, FM, f(x))~~ is converted into another demodulation method ~~(AM, FM, f(x))~~.

~~{e13}~~ 13. (currently amended) The process ~~Process~~ according to claim 9, wherein each result of the correlation ~~(6a, 6b, 6c)~~ is subjected to a first interpolation ~~(7a, 7b, 7c)~~ between sampling points ~~(S<sub>1</sub>—S<sub>5</sub>)~~.

~~{e14}~~ 14. (currently amended) The process ~~Process~~ according to claim 13, wherein a first interpolation method used in the first interpolation ~~(7a, 7b, 7c)~~ depends upon one of: an associated demodulation method ~~(AM, FM, f(x))~~; the comparison signal ~~(f~~

~~(AM,Signal), f (FM,Signal), f (f(x),Signal)~~; and the filtering  
~~(1a, 1b, 1c).~~

~~[e15]~~ 15. (currently amended) The process ~~Process~~ according to  
claim 13, wherein the time offset of the input signal is subjected  
to a second interpolation ~~[(9)]~~ between sampling points ~~(S<sub>1</sub>—S<sub>5</sub>).~~